Zfp330 Cas9-CKO Strategy

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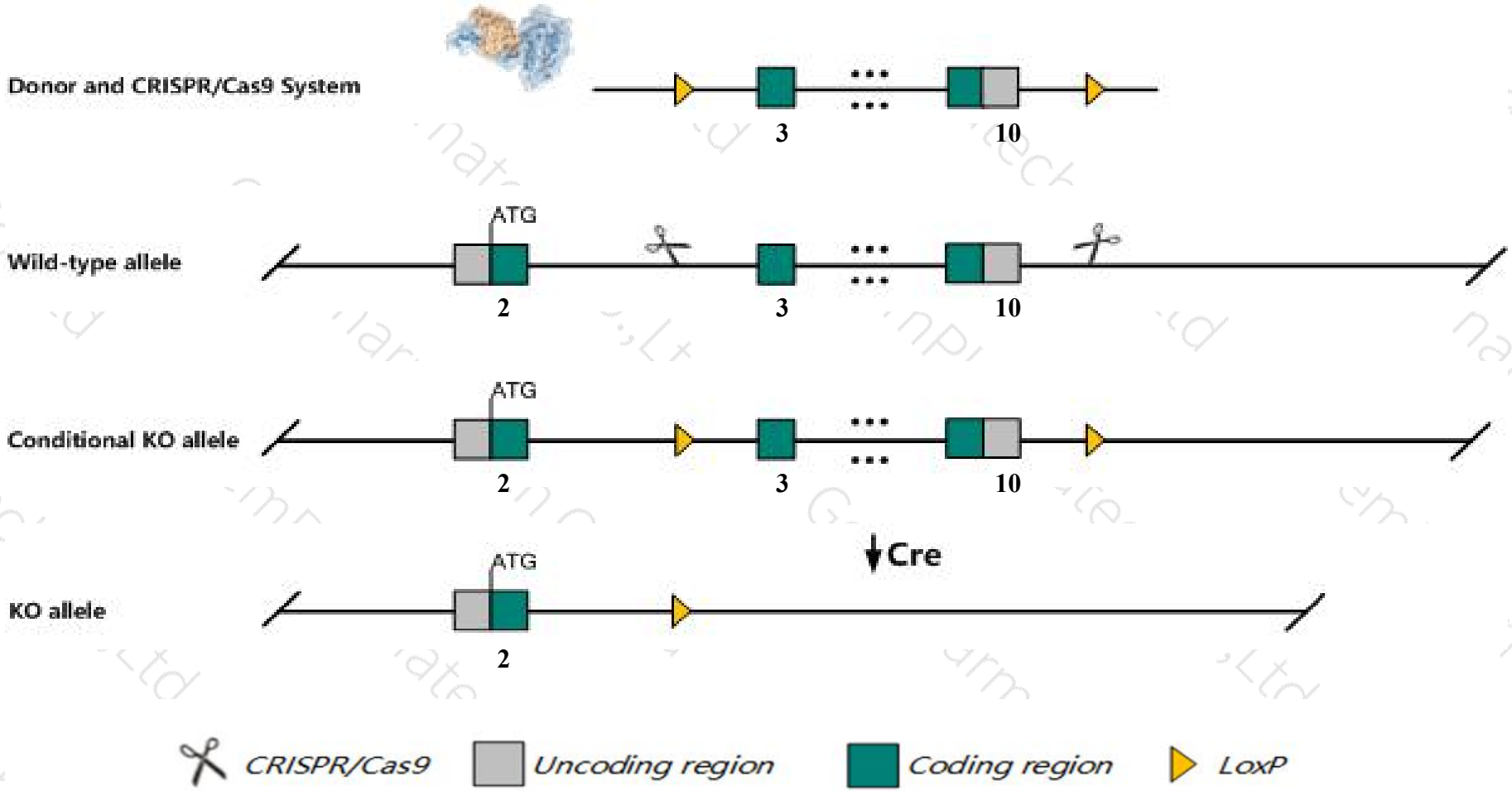
Project Overview

Project Name	***Zfp330***
Project type	**Cas9-CKO**
Strain background	**C57BL/6JGpt**

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zfp330* gene. The schematic diagram is as follows:



Technical routes

- The *Zfp330* gene has 7 transcripts. According to the structure of *Zfp330* gene, exon3-exon10 of *Zfp330-201* (ENSMUST00000034147.3) transcript is recommended as the knockout region.The region contains most of the coding sequence.Knock out the region will result in disruption of protein function.

- In this project we use CRISPR/Cas9 technology to modify *Zfp330* gene. The brief process is as follows:CRISPR/Cas9 system and Donor were microinjected into the fertilized eggs of C57BL/6JGpt mice.Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.

- The flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

Notice

➢ The *Zfp330* gene is located on the Chr8. If the knockout mice are crossed with other mice strains to obtain double gene positive homozygous mouse offspring, please avoid the two genes on the same chromosome.

➢ This Strategy is designed based on genetic information in existing databases.Due to the complexity of biological processes, all risk of loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information （NCBI）

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Zfp330 zinc finger protein 330 [Mus musculus (house mouse)]

Gene ID: 30932, updated on 7-Feb-2019

Summary

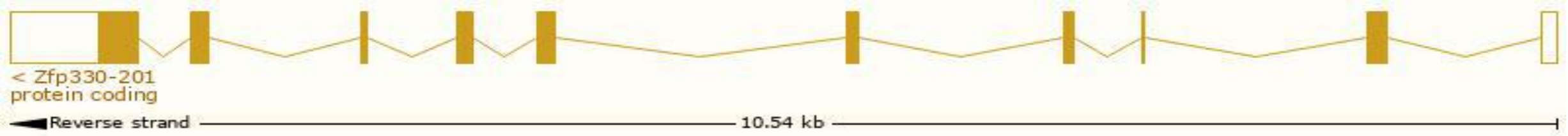
Official Symbol	Zfp330 provided by MGI
Official Full Name	zinc finger protein 330 provided by MGI
Primary source	MGI:MGI:1353574
See related	Ensembl:ENSMUSG00000031711
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	BC008086, Noa36, Znf330
Expression	Ubiquitous expression in CNS E11.5 (RPKM 25.6), CNS E18 (RPKM 18.9) and 24 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

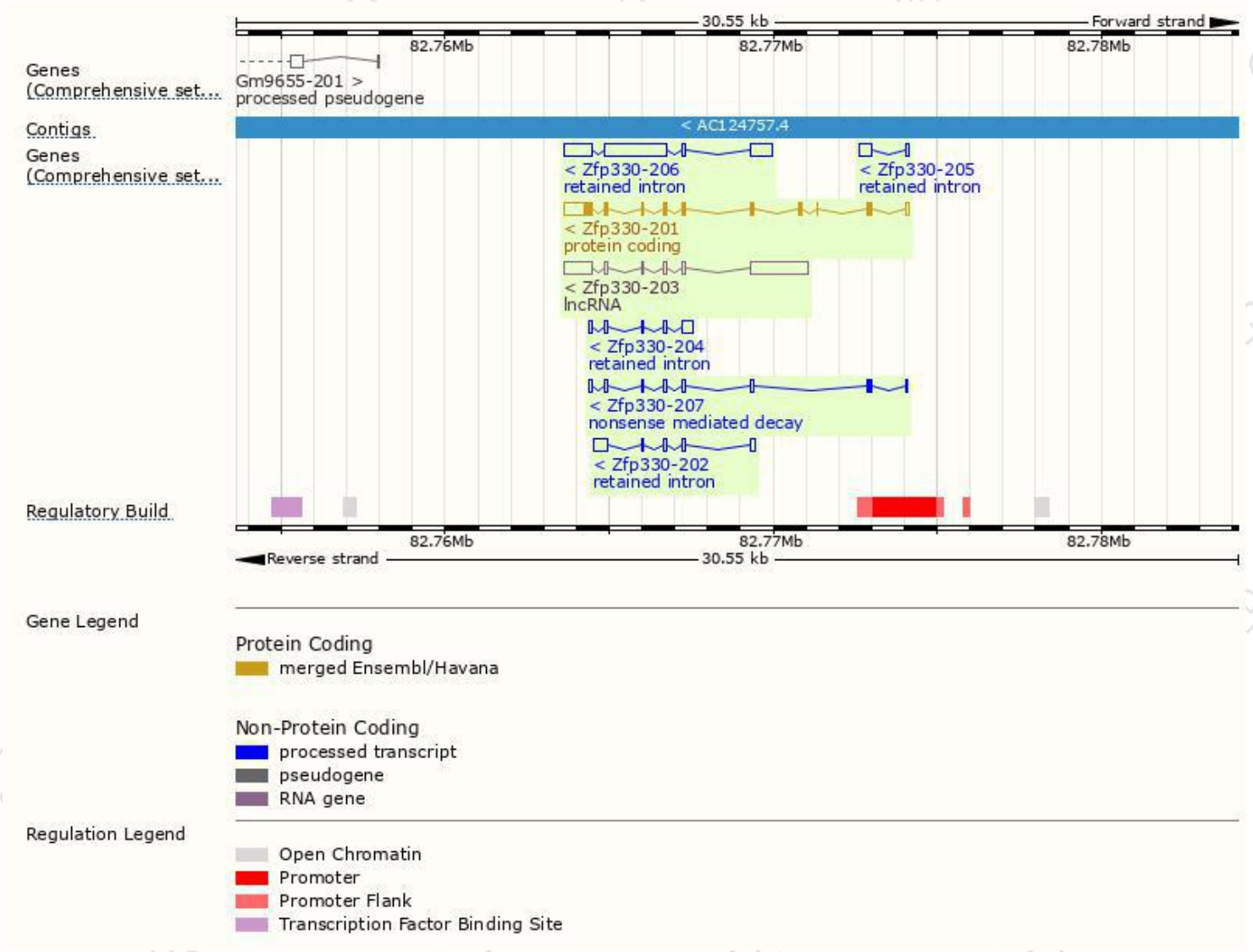
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zfp330-201	ENSMUST00000034147.3	1675	316aa	Protein coding	CCDS22447	Q922H9	TSL:1 GENCODE basic APPRIS P1
Zfp330-207	ENSMUST00000211462.1	761	45aa	Nonsense mediated decay	-	A0A1B0GSJ0	TSL:3
Zfp330-206	ENSMUST00000211451.1	3585	No protein	Retained intron	-	-	TSL:1
Zfp330-202	ENSMUST00000209587.1	895	No protein	Retained intron	-	-	TSL:3
Zfp330-204	ENSMUST00000209727.1	715	No protein	Retained intron	-	-	TSL:2
Zfp330-205	ENSMUST00000210958.1	457	No protein	Retained intron	-	-	TSL:2
Zfp330-203	ENSMUST00000209601.1	2988	No protein	lncRNA	-	-	TSL:1

The strategy is based on the design of *Zfp330-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain

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If you have any questions, you are welcome to inquire.

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